

Changing Incentives for Agricultural Expansion in Brazil

**What Will be the Key Factors Influencing
Brazil's Expanding Agriculture?**

By

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Overview

- **Brazil's position in the world of agriculture**
- **Land use in Brazil, potential for expansion**
- **Current state of crop production**
- **Incentives for agricultural expansion**
- **Obstacles to expansion**
- **Key factors**
- **Brazil's future**

Brazil's Current Position

- **Number one producer of: sugar, orange juice, coffee**
- **One of the top producers of: soybeans, corn, ethanol, tobacco, beef, pork, poultry, fruits, forestry products**
- **Agriculture responsible for 25% of GDP and one third of the jobs in Brazil**
- **Commodities account for 42% of Brazil's exports in 2010**

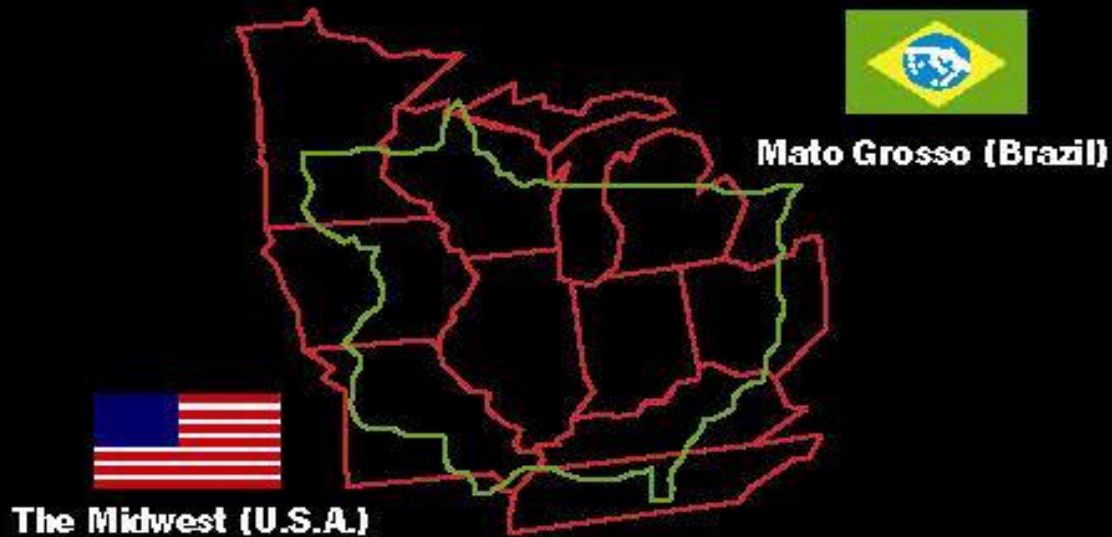
Size Comparison Brazil vs. United States



Mato Grosso – Leading Soybean Producing State

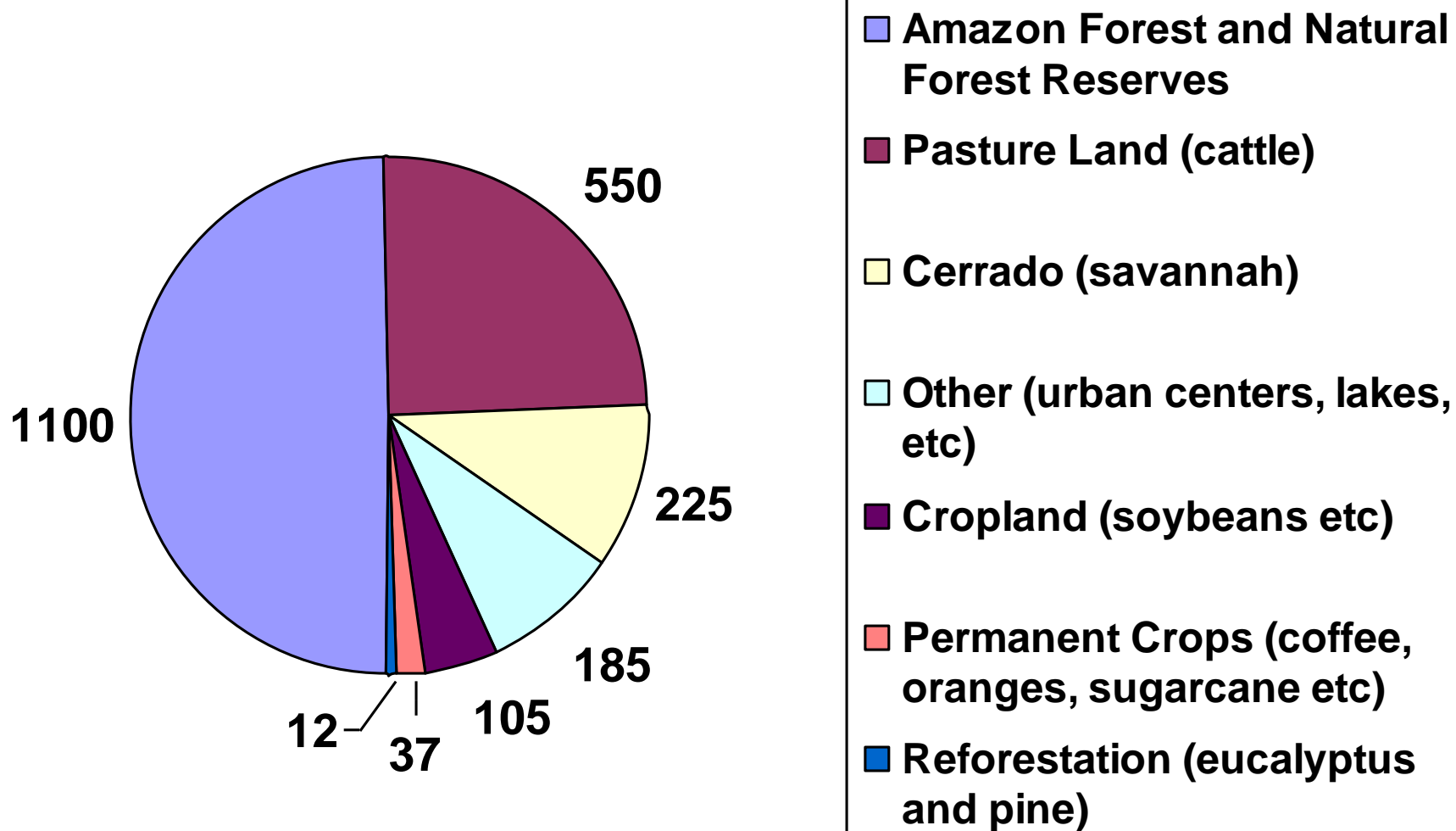


Size Comparison Mato Grosso - Midwest

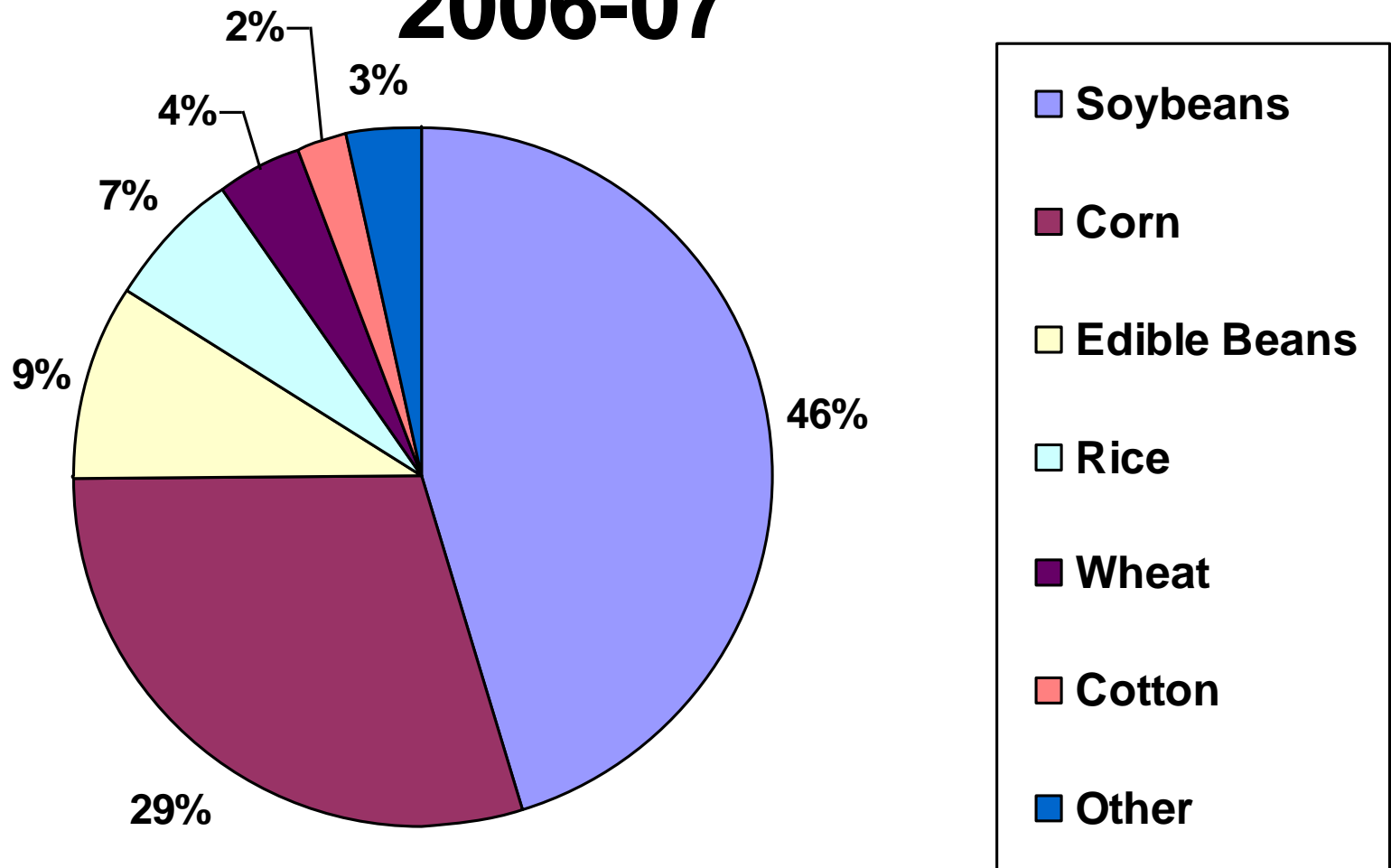


Brazil Land Utilization

millions of acres



Brazil's Row Crop Acreage- 2006-07



Cerrado Areas of Brazil



Native *Cerrado* Vegetation in Brazil



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Native *Cerrado* Vegetation in Brazil



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Clearing Land in Mato Grosso



New Soybean Production in Mato Grosso



Brazil Soybeans

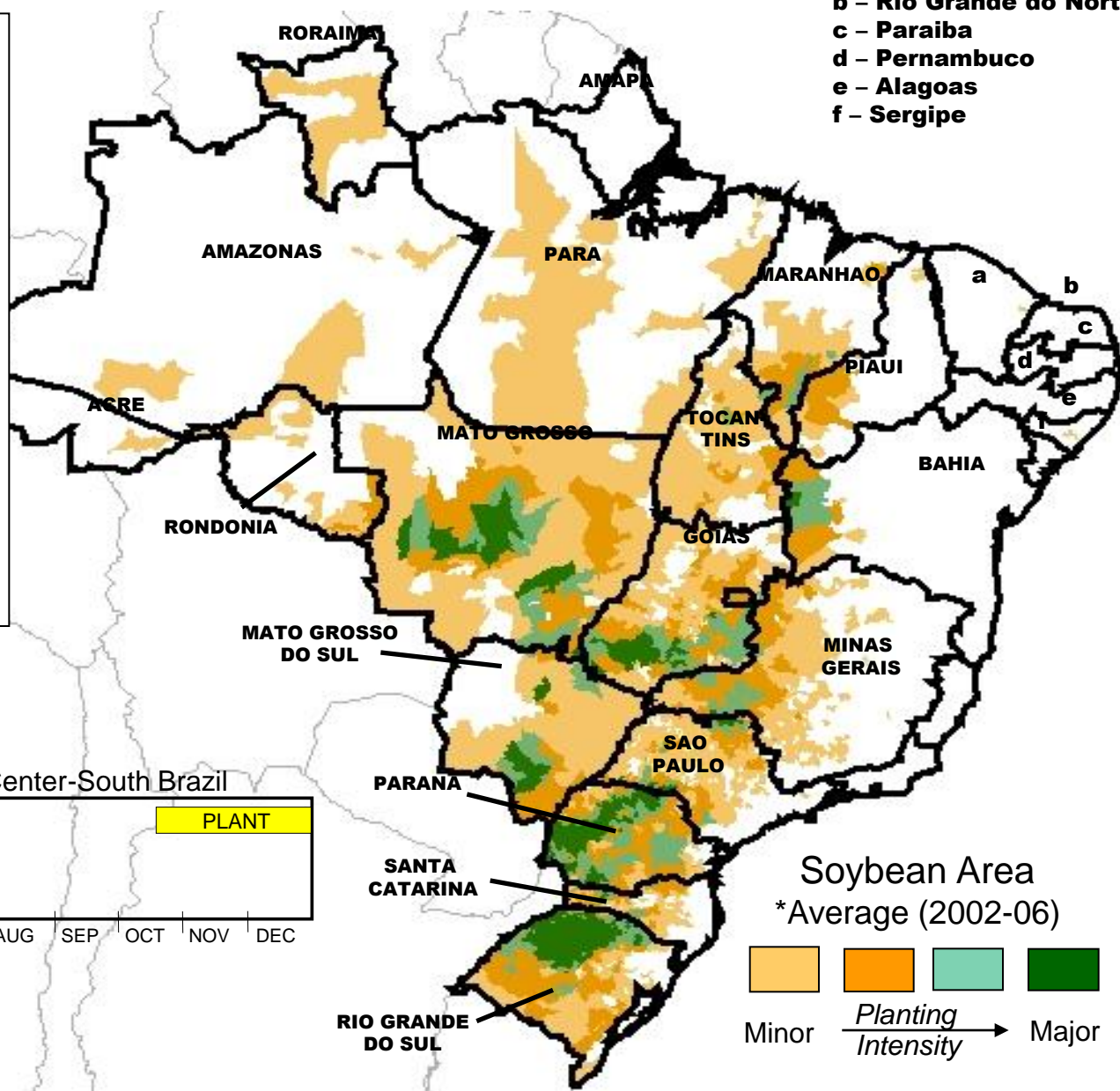
* State-Level Production
(as % of total)

Mato Grosso	29
Parana	20
Goiás	12
Rio Grande do Sul	12
Mato Grosso do Sul	8
Minas Gerais	5
Bahia	4
Sao Paulo	3
Tocantins	2
Other	~5

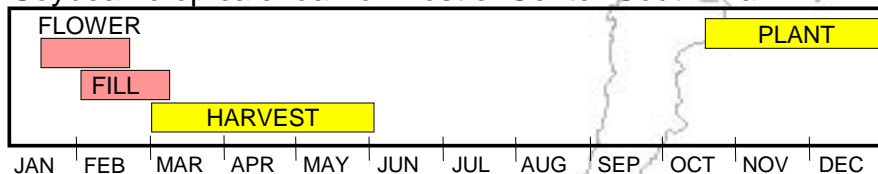
* 2001/02 to 2005/06 Average

Source: IBGE Brazil

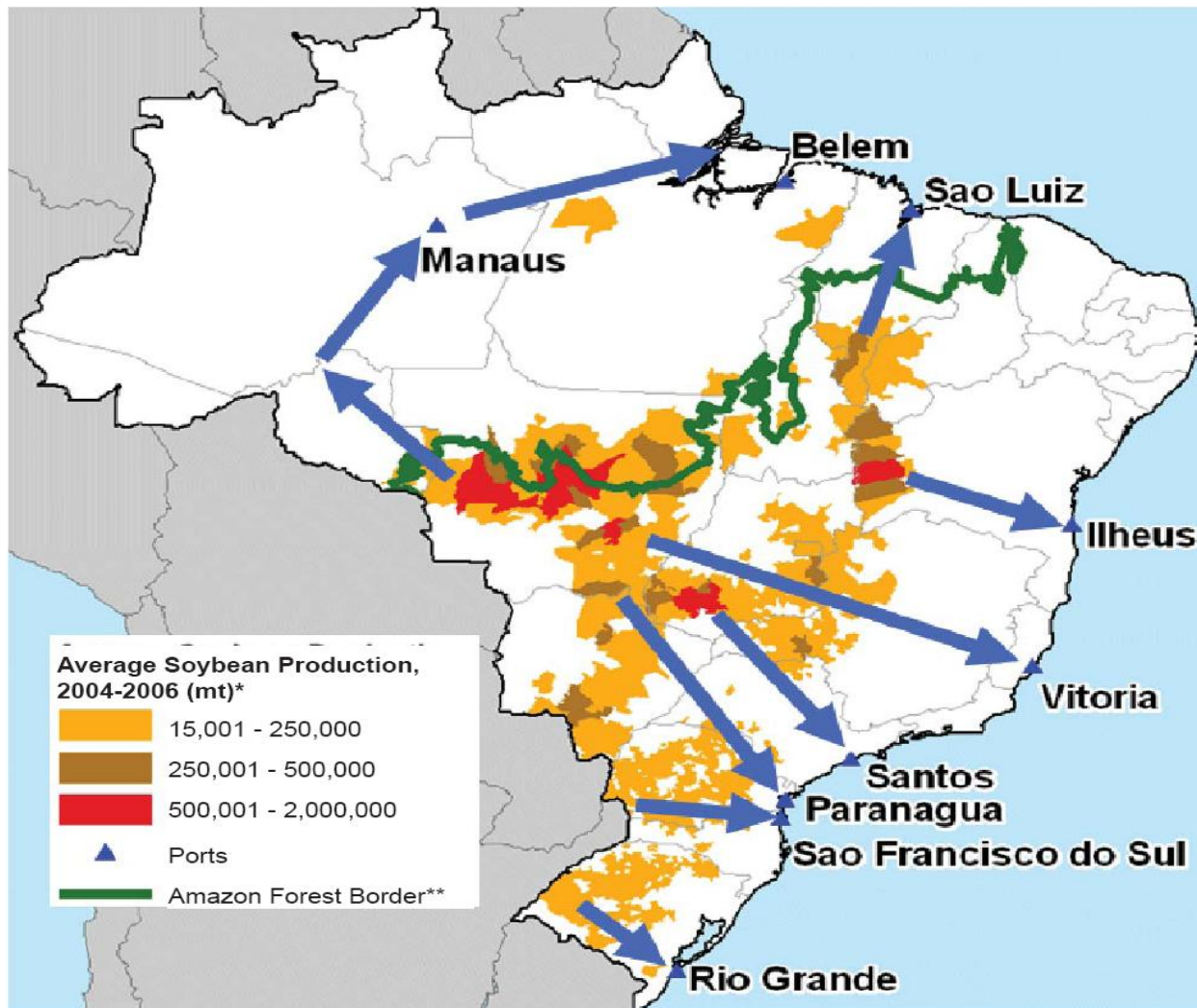
a - Ceara
b - Rio Grande do Norte
c - Paraíba
d - Pernambuco
e - Alagoas
f - Sergipe



Soybean crop calendar for most of Center-South Brazil



Major Export Routes of Brazil



*Companhia Nacional de Abastecimento (CONAB)

**World Wildlife Fund (WWF)

Source: USDA /Agricultural Marketing Service & Foreign Agricultural Service

Maturing Soybeans in Mato Grosso



Maturing Soybeans in Mato Grosso



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Soybean Production in Mato Grosso



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Soybean Production in Mato Grosso



Soybean Production in Mato Grosso



Harvesting Soybeans in Mato Grosso



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Safrinha Corn Following Soybeans



Planting *Safrinha* Corn in Mato Grosso



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Planting *Safrinha* Corn in Mato Grosso



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Safrinha Corn Production in Mato Grosso



Custom Combining In Brazil



Waiting to Transport Soybeans in Mato Grosso



ADM Facility in Mato Grosso



Cargill Crushing Plant in Mato Grosso



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Picking Up Soybeans at Lucas do Rio Verde, Mato Grosso



BR-163 in Mato Grosso



Traffic on BR-163 in Mato Grosso



Traffic on BR-364 in Mato Grosso



Mato Grosso Plateau



Mato Grosso Road Sign in Kilometers



Unimproved Road During Rainy Season



Unimproved Road During Rainy Season



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First Rail Terminal in Mato Grosso



Ferronorte Rail Terminal in Mato Grosso



Ferronorte Rail Terminal in Mato Grosso



Ferronorte Rail Terminal in Mato Grosso



Constructing *Ferronorte* Railroad in Mato Grosso



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Constructing *Ferronorte* Railroad in Mato Grosso



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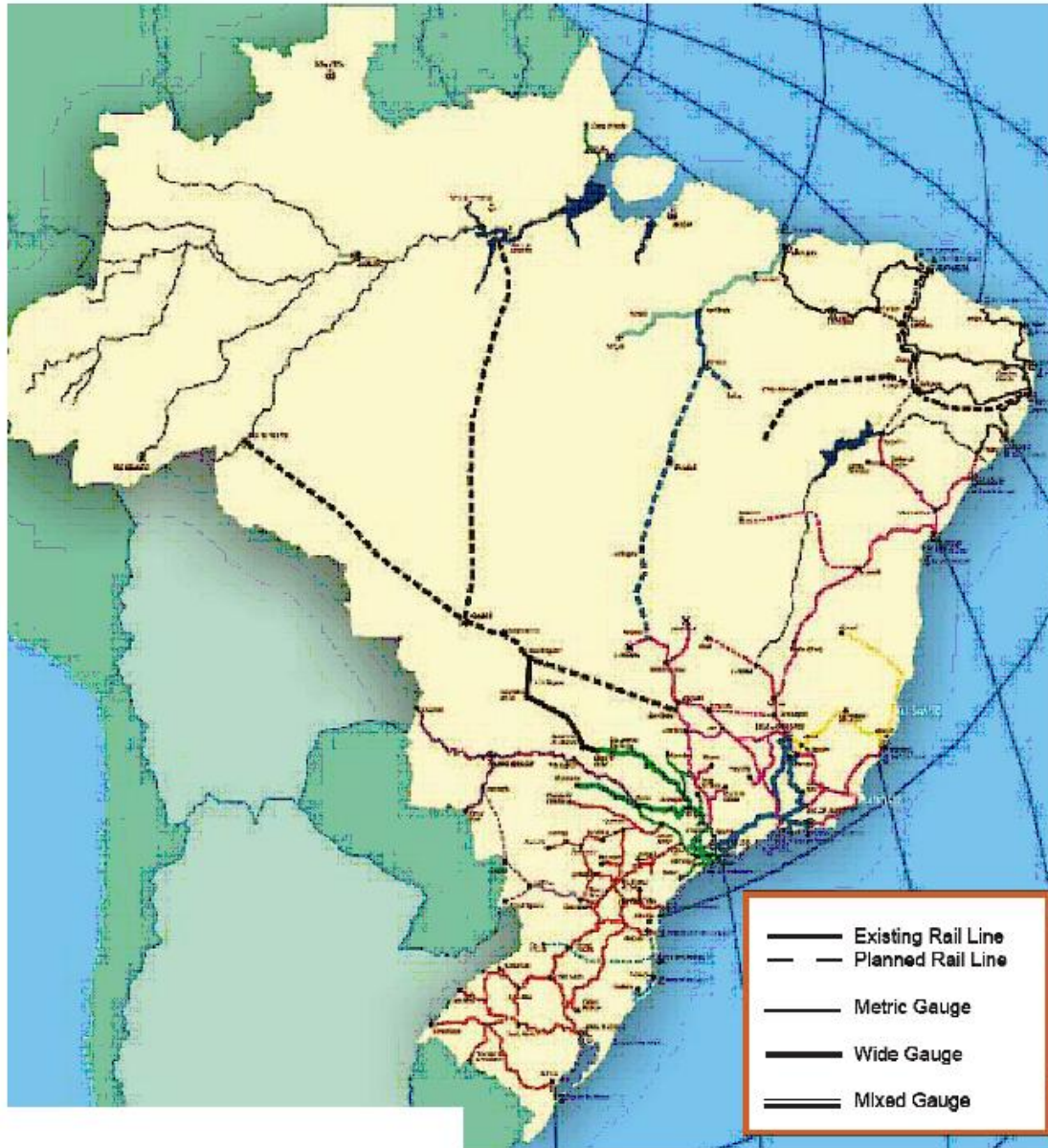
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Crushing Plant Along Ferronorte Railroad



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Brazilian Rail System: Gauge Sizes



City of Sorriso in Central Mato Grosso



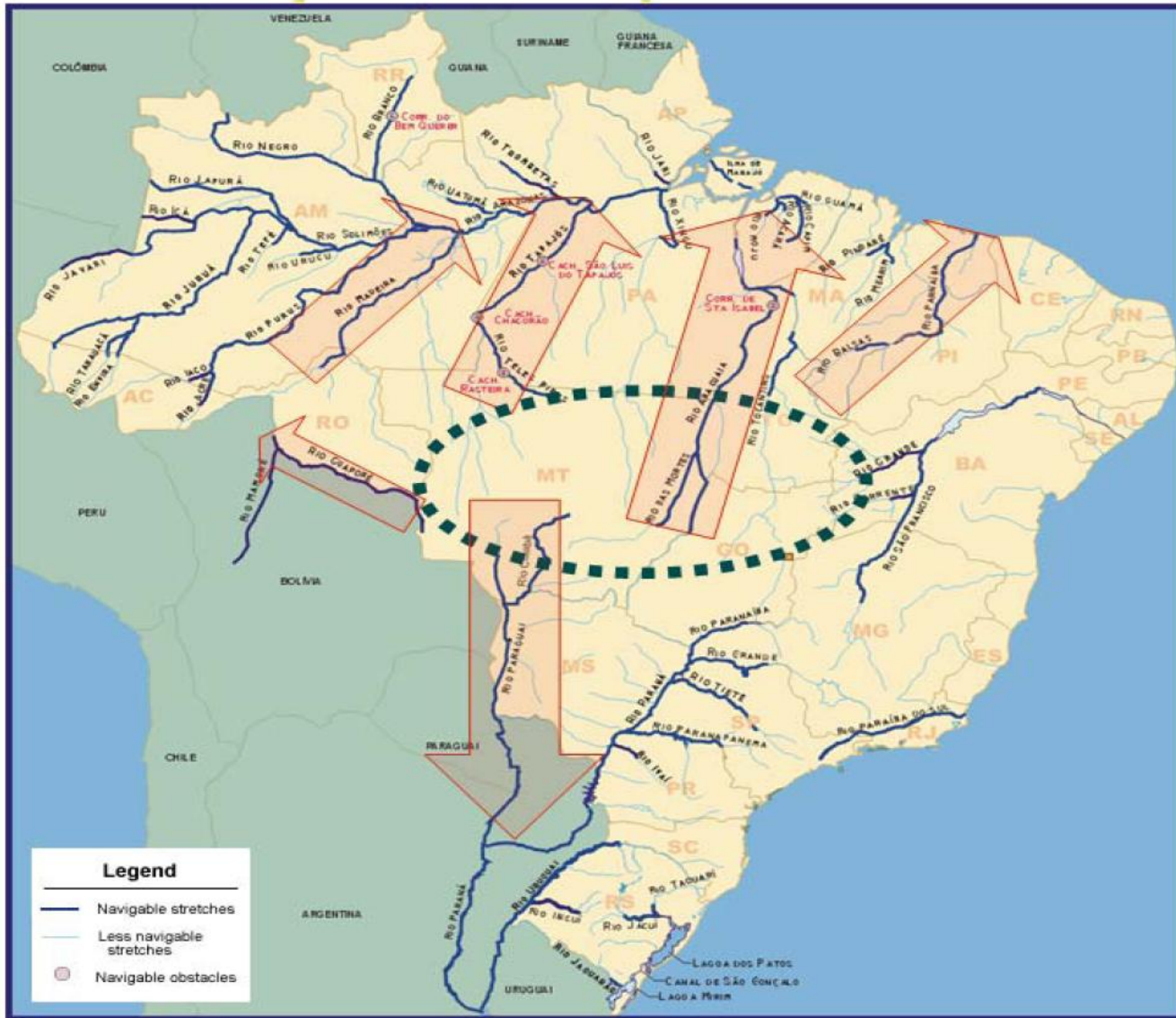
Parana River Between Sao Paulo and Mato Grosso do Sul



Port of Paranagua - Brazil



Brazilian River Export Routes



Source: USDA/AMS

Barging Operations on the Madeira River



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Barging Operations on the Madeira River



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Brazilian Cotton Production

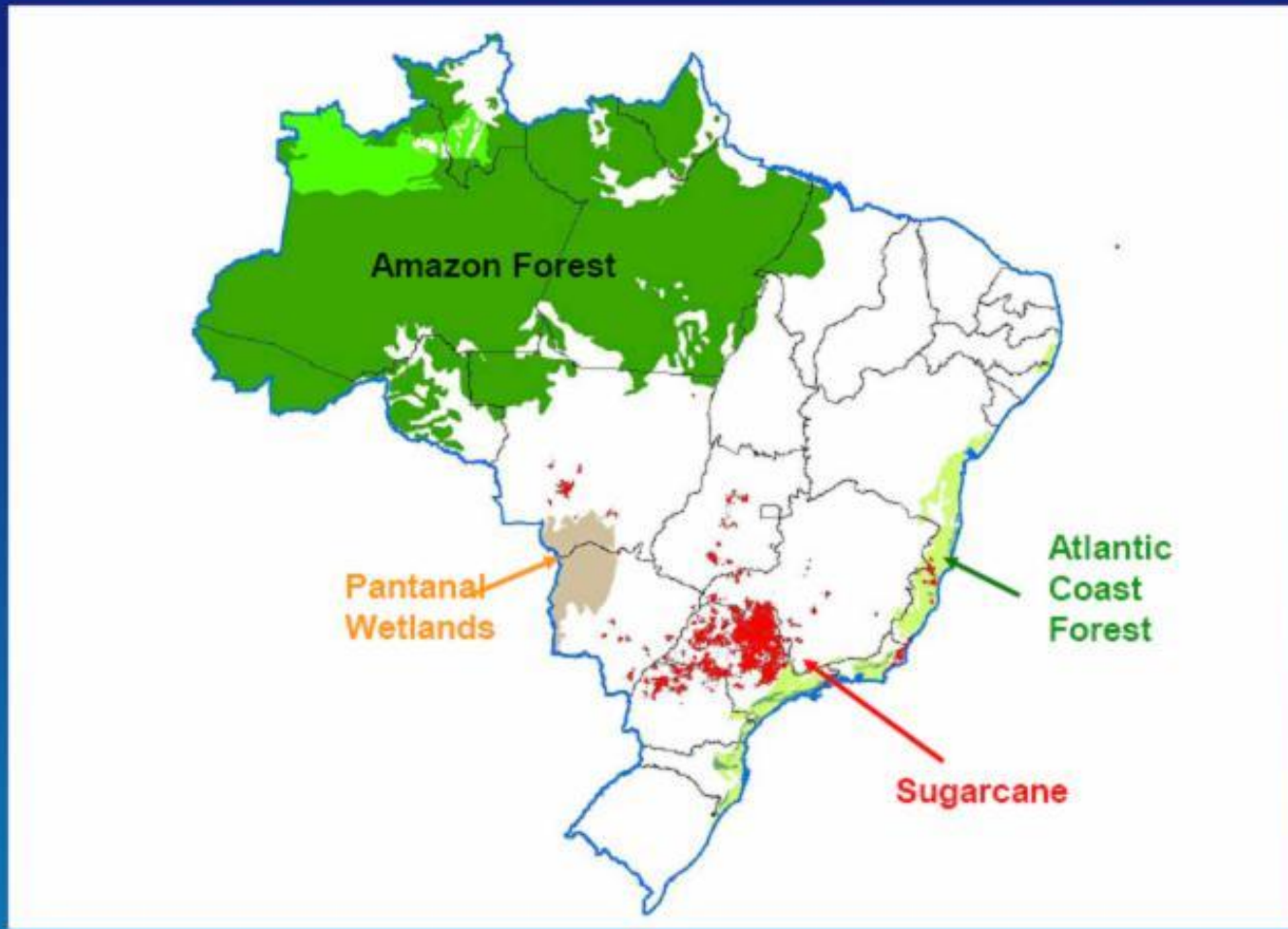


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Brazilian Sugarcane Production



SUGARCANE AREA IN THE CENTER-SOUTH



**The state of
Sao Paulo
accounts
for nearly
57% of
Brazil's
sugarcane
production**



Sugarcane Production Becoming More Mechanized



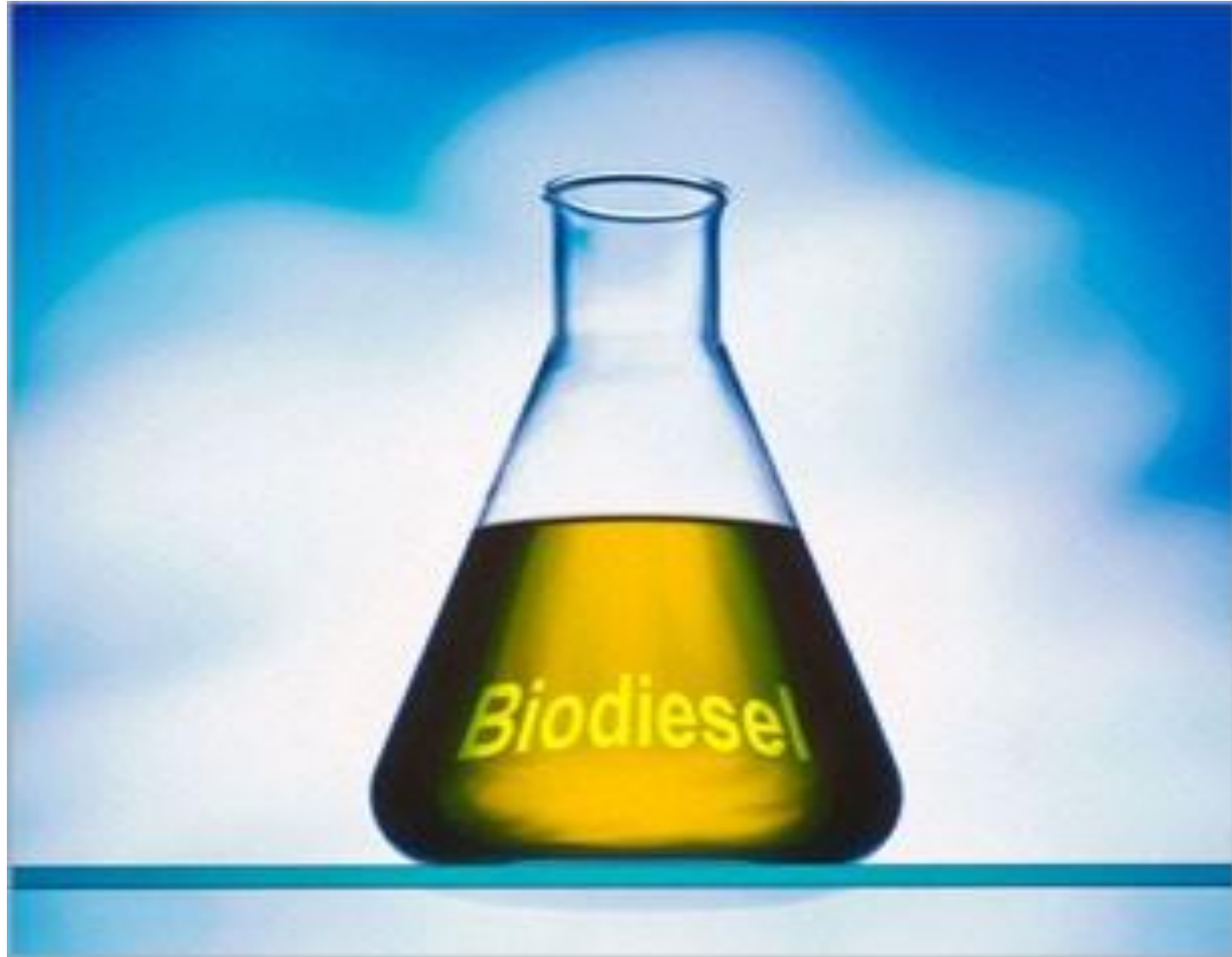
Brazilian Sugarcane Processing



Biodiesel Growth in Brazil

- **B5 biodiesel nationwide January 1, 2010.**
- **B10 nationwide and B20 in urban areas by 2015?**
- **Reduce urban pollution.**
- **Soy oil 80% of feedstock for biodiesel.**
- **New sources of vegetable oils being developed.**

Brazilian Biodiesel Made From Soy Oil



Palm Oil Production



Cattle Ranching in the Amazon Region



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Cattle Ranching in the Amazon Region



Cattle Ranching in the Amazon Region



Cattle Ranching in the Amazon Region



Deforestation for Cattle Ranching



Brazil Working to Reduce Deforestation



Squatters and farmers battle for the same land



Prior Incentives For Ag Expansion

- **Very cheap and abundant land**
- **Government incentives**
- **Low interest loans, sometimes below rate of inflation**
- **Mass migration north to expand operations**
- **Similar to “manifest destiny”**

New Incentives for Ag Expansion

- **Demand driven expansion**
- **Globalization of food supply and markets**
- **Foreign investments in agribusiness**
- **Interest in renewable energy**
- **Sourcing of raw materials by foreign governments - China, Middle East, Asia**

Key Factors Favoring Expansion

- **Strong sustained commodity prices**
 - **US\$ 11.50 to 13.00 soybean prices encourages expansion**
 - **Corn, cotton, sugar, meats**
- **Government programs – minimum price guarantees, low interest loans**
- **International investments in agriculture, renewable energy**

Key Factors Limiting Expansion

- **Inadequate infrastructure – lack of investments**
- **High transportation costs**
- **Strong Brazilian currency**
- **Stricter environmental regulations**
- **Restrictions on foreign ownership of farmland**
- **Desire for sustainable development**
- **Social considerations – agrarian reform**

Brazil's Potential

- **Brazil has: available land, climate, experience, research, knowhow, and production capability to become number one commodity exporter in the world.**
- **Potential to become number one food exporter as well**

BR-163 Before Asphalt



BR-163 Fifteen Years After Asphalt



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